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(71) Applicant: KAWASAKI STEEL CORP.

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(72) Inventor: FUNABASHI TOSHIHIKO
UCHIMURA RYOJI

(54) APPARATUS FOR CONTINUOUS PRODUCTION
OF SiO FINE POWDER OR SUCH

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(57) Abstract:

PURPOSE: To obtain SiO powder in high efficiency, by using a continuous process maintained to a reduced pressure from the charge to the delivery in the heat-treatment of an SiO₂ oxide powder to generate SiO vapor and the recovery of condensed SiO powder.

CONSTITUTION: A raw material mixture 8 composed mainly of an SiO₂ oxide powder and containing a carbon-containing component or metallic silicon powder is continuously charged through hoppers 4a, 4b into a muffle 2. The mixture is heated in the muffle 2 with a heater 10 in a non-oxidizing atmosphere having reduced pressure to effect the reaction of SiO₂ with carbon or silicon in the raw material mixture and generate SiO vapor. At the same time, a non-oxidizing gas is introduced into the muffle 2 through gas inlet ports 17, 18 and the generated SiO vapor is condensed in a gaseous phase. At the same time, the condensed product is transferred to SiO powder recovery chambers 11, 12 via transfer pipes 8, 9 heated with the heater 10 and is recovered in the form of SiO powder.

